

What is claimed is:

1 1. In a manually guided pointing operation in a display interface between a user and
2 a computer,
3 the improvement for position control comprising in combination:
4 a structural intersection between a curved member on a manually moveable pointing
5 member and a stationary surface,
6 said curved member having a peripheral surface in tangential contact with said
7 stationary surface,
8 said curved member further having associated signal generating circuitry operable
9 to move a cursor in said display in response to relative motion of said curved
10 member with respect to said stationary surface at said intersection, and
11 a frictional force component in the plane of said tangential contact in said
12 intersection.

1 2. In a manually guided pointing operation in a display interface between a user and
2 a computer,
3 the improvement for position control comprising in combination:
4 a first type structural intersection between a curved member on a manually
5 moveable pointing member and a stationary surface,
6 said curved member having a peripheral surface in tangential contact with said

7 stationary surface,
8 said curved member further having associated signal generating circuitry operable
9 to move a cursor in said display in response to relative motion of said curved
10 member with respect to said stationary surface at said intersection,
11 at least one second type structural intersection between a protrusion on said
12 manually moveable pointing member and a contact location on said
13 stationary surface,
14 each said protrusion having a peripheral surface in contact with said stationary
15 surface, and,
16 a frictional force component at said contact location.

1 3. The improvement of claim 2 where said protrusion is a member attached to said
2 manually moveable pointing member and taken from a group of a bump and roller.

1 4. The improvement of Claim 1 wherein said manually movable pointing member
2 and said stationary surface are a computer mouse and mouse pad combination.

1 5. The improvement of claim 4 wherein said addition of a frictional force
2 component is the result of the addition of a 20 - 50 % increase of the weight of said
3 computer mouse.

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Sub B1
1 ~~6. The improvement of Claim 5 wherein said 20 - 50% weight increase is in the~~
2 ~~range of 20 - 50 grams.~~

Sub E1
1 ~~7. The improvement of Claim 6 wherein said 20 - 50% weight increase is in the~~
2 ~~form of a localized group of metal particles positioned within a housing of said~~
3 ~~mouse.~~

1 8. The improvement of Claim 6 wherein said 20 - 50% weight increase is in the
2 form of a weight member affixed to a housing of said mouse.

Sub B2
1 ~~9. The improvement of claim 4 wherein said addition of a frictional force~~
2 ~~component is the result of the addition of a combination of a magnetic member~~
3 ~~positioned on the surface of said computer mouse that is adjacent to said computer~~
4 ~~mouse pad and a ferromagnetic sheet positioned in said mouse pad.~~

Sub B3
1 ~~10. The improvement of claim 4 wherein said addition of a frictional force~~
2 ~~component is the result of the addition of an increase in coefficient of friction~~
3 ~~of protrusions on the surface of said computer mouse that are adjacent to said~~
4 ~~computer mouse pad at the surface of said computer mouse pad.~~

Sub B4
1 ~~11. The improvement of claim 4 wherein said addition of a frictional force~~
2 ~~component is a result of at least one addition taken from the group of the addition of~~

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3 totaling about 20 - 50 % of the weight of said mouse, the addition of a
4 combination of a magnetic member positioned on the surface of said mouse that is
5 adjacent to said mouse pad and a ferromagnetic sheet positioned in said mouse
6 pad and an addition of an increase in coefficient of friction between protrusions on
7 the surface of said mouse that are adjacent to said mouse pad.

Sub B6
1 14. ~~The improvement of claim 12 wherein said frictional force component is the~~
2 ~~result of the addition of an about 20 - 50 % in weight increase of said mouse and~~
3 ~~said weight increase is produced by about 20 - 50 grams of metal particles in the~~
4 ~~housing of said mouse..~~

Sub B7
1 15. ~~The improvement of claim 12 wherein said frictional force component is the~~
2 ~~result of the addition of about 20 - 50 % in the weight of said mouse, and said~~
3 ~~weight increase is produced by affixing to the top of the housing of said mouse an~~
4 ~~element comprising one or more cloth or plastic covered metal discs totaling about~~
5 ~~20 - 50 grams in weight.~~

Sub B8
1 16. ~~The improvement of claim 12 wherein said frictional force component is the~~
2 ~~result of the addition of a combination of a magnetic member positioned on the~~
3 ~~surface of said mouse that is adjacent to said mouse pad and a ferromagnetic sheet~~
4 ~~positioned in said mouse pad.~~

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- 1 17. The improvement of claim 16 wherein said magnetic member is adjustably
2 positioned and said mouse is positioned on rollers away from said mouse pad.

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